



"FILTREXX" COMPOST SOCK SEDIMENT TRAP DESIGN CALCULATIONS:

IN ACCORDANCE WITH THE COMPOST SOCK SEDIMENT TRAP SECTION OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (TECHNICAL GUIDANCE NUMBER 363-2134-008, MARCH 2012), A COMPOST SOCK SEDIMENT TRAP MUST PROVIDE 2,000 CUBIC FEET STORAGE CAPACITY WITH 12" FREEBOARD FOR EACH TRIBUTARY DRAINAGE ACRE.

TRIBUTARY DRAINAGE AREA: ±48,890 SQ.FT. = 1.12 ACRES
 MIN. REQUIRED STORAGE CAPACITY - 1.12 ACRES x 2,000 CU.FT./ACRE - 2,240 CU.FT.
 SURFACE AREA OF CONTAINMENT = ±1,944 SQ.FT.*
 EFFECTIVE DEPTH OF 32"Ø COMPOST SOCK = 26 IN.
 MAX. WATER LEVEL W/12" FREEBOARD = 26 IN. - 12 IN. = 14 IN.
 STORAGE CAPACITY PROVIDED - 1,944 SQ.FT. x (14 IN./12) - 2,268 CU.FT.
 2,268 CU.FT. > 2,240 CU.FT. --- OKAY

IN ACCORDANCE WITH SECTION No. 1.9 OF THE "FILTREXX" DESIGN MANUAL, THE MINIMUM CONSTRUCTED FASCIA AREA (LENGTH x HEIGHT [FROM GROUND TO MAX. WATER LINE]) OF THE SEDIMENT TRAP CAN BE CALCULATED ACCORDING TO THE FOLLOWING EQUATION:

$A = Q/0.984$ WHERE A = AREA OF SEDIMENT TRAP FASCIA (SQ.FT.)
 Q = PEAK FLOW RATE TO SEDIMENT TRAP (CFM)
 0.984 = FLOW-THROUGH RATE OF SEDIMENT TRAP (CFM/SQ.FT.)

$Q = 2.45 \text{ CFS} = 147 \text{ CFM}$ FOR TWO-YEAR STORM**
 $A = 147 \text{ CFM} / 0.984 = 149.4 \text{ SQ.FT.}$
 EFFECTIVE LENGTH OF SEDIMENT TRAP = 140.1 FT.
 HEIGHT OF WATER LEVEL FOR TWO-YEAR STORM = 149.4 SQ.FT. / 140.1 FT. = 12.8 IN.
 EFFECTIVE DEPTH OF 32"Ø COMPOST SOCK = 26 IN.
 MAX. WATER LEVEL W/12" FREEBOARD = 26 IN. - 12 IN. = 14 IN.
 12.8 IN. < 14 IN. --- OKAY

NOTES:

* THIS VALUE REPRESENTS THE MINIMUM AREA OF CONTAINMENT THAT WOULD OCCUR AFTER THE NEW GRADING HAS BEEN COMPLETED IN THE REAR YARD (I.E., THE WORST-CASE CONDITION).

** FROM HYDROCAD CALCULATIONS. PLEASE REFER TO ALTA DESIGN'S "POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN REPORT."

1. SEE TRIBUTARY AREA TO "FILTREXX" SEDIMENT TRAP IN DETAIL No. 2/C-6.1.
2. "FILTREXX" SEDIMENT TRAP MUST COMPLY WITH ALL "FILTREXX" STANDARD SPECIFICATIONS, WHICH ARE PROVIDED IN DETAIL No. 4/C-4.
3. "FILTREXX" SEDIMENT TRAP MUST USE "FILTREXX FilterMedia."
4. ENDS OF THE SEDIMENT TRAP SHALL BE A MINIMUM OF ONE FOOT HIGHER THAN ITS LOWER ELEVATION.

INSPECTION:

1. ROUTINE INSPECTION SHALL BE CONDUCTED WITHIN 24 HOURS OF A RUNOFF EVENT OR AS DESIGNATED BY THE REGULATING AUTHORITY.
2. SEDIMENT TRAPS SHOULD BE REGULARLY INSPECTED TO MAKE SURE THEY MAINTAIN THEIR SHAPE AND ARE PRODUCING ADEQUATE HYDRAULIC FLOW-THROUGH.
3. IF PONDING BECOMES EXCESSIVE, ADDITIONAL SEDIMENT TRAPS MAY BE REQUIRED TO REDUCE THE EFFECTIVE DRAINAGE AREA, OR SEDIMENT REMOVAL MAY BE NECESSARY.

OPERATION & MAINTENANCE:

1. THE CONTRACTOR SHALL MAINTAIN THE SEDIMENT TRAP IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
2. IF THE SEDIMENT TRAP HAS BEEN DAMAGED, IT SHALL BE REPAIRED, OR REPLACED IF BEYOND REPAIR.
3. THE CONTRACTOR SHALL REMOVE SEDIMENT AT THE BASE OF THE UPSLOPE SIDE OF THE SEDIMENT TRAP WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE SEDIMENT TRAP, OR AS DIRECTED BY THE ENGINEER.
4. SEDIMENT TRAPS SHALL BE MAINTAINED UNTIL DISTURBED AREA HAS BEEN PERMANENTLY STABILIZED AND CONSTRUCTION ACTIVITY HAS CEASED.
5. THE "FilterMedia" SHALL BE DISPERSED ON-SITE ONCE THE DISTURBED AREA HAS BEEN PERMANENTLY STABILIZED, CONSTRUCTION ACTIVITY HAS CEASED, OR AS DETERMINED BY THE ENGINEER.
6. FOR LONG-TERM SEDIMENT AND POLLUTION CONTROL APPLICATIONS, SEDIMENT TRAPS CAN BE SEEDED AT THE TIME OF INSTALLATION TO CREATE A VEGETATIVE FILTERING SYSTEM FOR PROLONGED AND INCREASED FILTRATION OF SEDIMENT AND SOLUBLE POLLUTANTS (CONTAINED VEGETATIVE FILTER STRIP). THE APPROPRIATE SEED MIX SHALL BE DETERMINED BY THE ENGINEER.

"FILTREXX" COMPOST SOCK SEDIMENT TRAP DETAIL

SCALE: 1" = 30'-0"